Syncope caused by pulmonary artery intima sarcoma: a cardiac magnetic resonance imaging-based differentiating diagnosis

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A 17-year old man was referred with Syncope. Echocardiography suggested a mass in the main pulmonary artery. A comprehensive cardiac magnetic resonance was performed. The mass was attached to the intima of the pulmonary artery. The diagnosis of thrombus was excluded. Finally, the mass was resected successfully and pathology confirmed the diagnosis (Fig. 1, Supplementary Videos S1 and S2).

Supplementary material (Videos 1 and 2) is available at EJCTS online.

Video S1: Axial steady-state free precession cine showed a large mass attached to the intima of the pulmonary main artery which swung during the cardiac cycle.

Video S2: Sagittal views showed that the mass consisted of two different characteristic parts located above the pulmonary valve; the pulmonary valve was not affected.

Figure 1: (A) The mass within the main pulmonary artery showed isosignal as normal myocardium on T1 weighted imaging (axial view). (B) Angiography showed no peripheral pulmonary artery embolism. (C) T2-weighted imaging of the mass. The mass showed high homogeneous signal on T2-weighted spin echo sequence. (D) The mass consisted of two parts with distinct different signals on late gadolinium-enhanced imaging [optimal inversion time (TI) time was determined by myocardium]. One part showed up very dark on phase-sensitive inversion recovery sequence even with 600 ms TI time, whereas the other part showed the same signal as myocardium. (E) Gross specimen image showed the lobulated mass. (F) Histological pathology demonstrated that the tumour was composed of malignant spindle cells arranged in fascicles (haematoxylin-eosin staining, ×400). The patient was alive at 1-year follow-up.